

Bibliographic Data	Description	Claims	Previous	Return
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1. 5,868,597, Feb. 9, 1999, Ultra-soft, ultra-elastic gel airfoils; John Youngfu Chen, 446/46, 486 [IMAGE AVAILABLE]
2. 5,766,387, Jun. 16, 1998, Method of making a polyurethane pad covering; Robert J. Wolf, et al., 156/62.4, 167, 296, 324 [IMAGE AVAILABLE]
3. 5,713,544, Feb. 3, 1998, Wrist rest assembly; Robert J. Wolf, et al., 248/118, 918; 400/715 [IMAGE AVAILABLE]
4. 5,669,797, Sep. 23, 1997, Polyurethane pad covering; Robert J. Wolf, et al., 442/329, 394, 400 [IMAGE AVAILABLE]
5. 5,641,369, Jun. 24, 1997, Wrist rest assembly; Kenneth J. Kirchhoff, et al., 156/73.1, 308.4, 309.6; 264/445 [IMAGE AVAILABLE]
6. 5,633,286, May 27, 1997, Gelatinous elastomer articles; John Y. Chen, 524/474; 2/411; 5/632, 636, 640; 132/321; 135/68, 71, 72, 82; 297/391, 392, 394, 397, 411.2, 423.1, DIG.1, DIG.4; 427/162; 428/52; 521/148; 524/476, 490, 505; 525/95 [IMAGE AVAILABLE]
7. 5,593,769, Jan. 14, 1997, Polyurethane pad covering for gel filled articles; Robert J. Wolf, et al., 442/351; 428/36.1, 903; 442/394 [IMAGE AVAILABLE]
8. 5,547,154, Aug. 20, 1996, Wrist rest assembly; Kenneth J. Kirchhoff, et al., 248/118.3, 188.2, 918 [IMAGE AVAILABLE]
9. 5,336,708, Aug. 9, 1994, Gelatinous elastomer articles; John Y. Chen, 524/474; 2/411; 5/632, 636, 640, 909; 132/321; 135/68, 71, 72, 82; 297/391, 392, 394, 397, DIG.1, DIG.4; 427/162; 525/95, 148, 476, 490, 505, 521 [IMAGE AVAILABLE]

5,868,597, Feb. 9, 1999, Ultra-soft, ultra-elastic gel airfoils; John Youngfu Chen, 446/46, 486 [IMAGE AVAILABLE]

inch thick polyurethane; that motion of the top surface 20 of the pad with a supported wrist relative to its bottom surface in a plane generally parallel to the pad support surface 15 of the base assembly 14 allows the supported wrist and the users hand to move in any direction in a generally circular area having a diameter of about one inch. The area of such movement could be made larger or smaller by using different gel compositions, but for most embodiments of the wrist rest should be a circular area having a diameter of at least 1/2 inch.

US PAT NO: 5,336,708 [IMAGE AVAILABLE]

L1: 9 of 9

SUMMARY:

BSUM(4)

UK Patent No. **1,268,431** as well as U.S. Pat. No. 3,676,387 teach forming gel articles having odd or intricate shapes, insoles for boots, ski boot liners, helmet liners, and very flexible exceptionally low modulus material. The gels can be covered with protective skins of elastomeric film or fabric if desired in special applications. Examples given in the patents include coating polyester film with a styrene-isoprene-styrene block copolymer gel and laminating fabric with a styrene-butadiene-styrene block copolymer gel.

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1. 5,868,597, Feb. 9, 1999, Ultra-soft, ultra-elastic gel airfoils; John Youngfu Chen, 446/46, 486 [IMAGE AVAILABLE]

2. 5,766,387, Jun. 16, 1998, Method of making a polyurethane pad covering; Robert J. Wolf, et al., 156/62.4, 167, 296, 324 [IMAGE AVAILABLE]

3. 5,713,544, Feb. 3, 1998, Wrist rest assembly; Robert J. Wolf, et al., 248/118, 918; 400/715 [IMAGE AVAILABLE]

4. 5,669,797, Sep. 23, 1997, Polyurethane pad covering; Robert J. Wolf, et al., 442/329, 394, 400 [IMAGE AVAILABLE]

5. 5,641,369, Jun. 24, 1997, Wrist rest assembly; Kenneth J. Kirchhoff, et al., 156/73.1, 308.4, 309.6; 264/445 [IMAGE AVAILABLE]

6. 5,633,286, May 27, 1997, Gelatinous elastomer articles; John Y. Chen, 524/474; 2/411; 5/632, 636, 640; 132/321; 135/68, 71, 72, 82; 297/391, 392, 394, 397, 411.2, 423.1, DIG.1, DIG.4; 427/162; 428/52; 521/148; 524/476, 490, 505; 525/95 [IMAGE AVAILABLE]

7. 5,593,769, Jan. 14, 1997, Polyurethane pad covering for gel filled articles; Robert J. Wolf, et al., 442/351; 428/36.1, 903; 442/394 [IMAGE AVAILABLE]

8. 5,547,154, Aug. 20, 1996, Wrist rest assembly; Kenneth J. Kirchhoff, et al., 248/118.3, 188.2, 918 [IMAGE AVAILABLE]

9. 5,336,708, Aug. 9, 1994, Gelatinous elastomer articles; John Y. Chen, 524/474; 2/411; 5/632, 636, 640, 909; 132/321; 135/68, 71, 72, 82; 297/391, 392, 394, 397, DIG.1, DIG.4; 427/162; 525/95, 148, 476, 490, 505, 521 [IMAGE AVAILABLE]

SUMMARY:

BSUM(5)

UK patent **1,268,431** discloses a symmetric gel ball.

US PAT NO: 5,766,387 [IMAGE AVAILABLE]

L1: 2 of 9

DETDESC:

DETD(7)

The gel can be any stable viscoelastic material such as the elastomeric block copolymer gels described in U.S. Pat. No. 3,676,387, the substance of which is incorporated herein by reference, or U.K. Patent No. **1,268,431**. These gels comprise synthetic block copolymer elastomers tackified by an oil in a ratio of about 4:1 to 15:1 oil to block copolymer. The block copolymers could be Kraton.TM. or like elastomeric materials which are formed by alternating blocks of a polyalkenyl aromatic, such as polystyrene, and a polyalkadiene such as polyisoprene, polybutadiene or hydrogenated versions thereof.

US PAT NO: 5,713,544 [IMAGE AVAILABLE]

L1: 3 of 9

SUMMARY:

BSUM(13)

Preferably, is the gel described in Example No. 2 of British Patent No. GB **1,268,431** (which states "A mixture of 5 parts "Nujol" (Registered Trade Mark) brand U.S.P. mineral oil and one part styrene-isoprene-styrene block copolymer ("Kraton 107") was heated to approximately 149 degrees C. and agitated vigorously until the polymer appeared visually dissolved. Empty pint bottles were dipped into this hot sol so that a layer approximately 1.59 mm thick was deposited on the bottom rim. These bottles could be filled with water and dropped repeatedly onto concrete floor or steel plates without breakage.") except that the ratio of oil to block copolymer is in the range of 4 to 1 to 10 to 1 rather than being 5 to 1 as is described in that Example No. 2. That gel is quite similar to the gel in the pad commercially available from Minnesota Mining and Manufacturing company, St. Paul, Minn., under the trade designation "RESTON (T.M.) Flotation Pad", which pad for many years has been used in beds, wheel chairs and the like to prevent pressure points. Also, preferably the gel has a covering comprising an elongate tubular layer of flexible polymeric material (e.g., polyurethane) around the gel, which tubular layer has sealed ends to retain the gel and provides a flexible barrier to the escape of mineral oil from within the gel. The pad assembly can further include an outer layer over the top surface of the pad of a soft conformable material adapted for comfortable contact with a users wrists.

DETDESC:

DETD(3)

Generally, the wrist rest assembly 10 comprises (1) an elongate base 14 having an elongate upper pad support surface 15 (see FIG. 6), which base 14 has a bottom supported surface 16 generally parallel to its upper pad support surface 15 adapted to be supported on a horizontal surface along

the front edge of the device 11 or 12; and (2) an elongate pad 17 comprising a covering 18 and a layer of gel 19 within the covering 18. The pad 17, which is shown separated from the base 14 in FIG. 1, has opposite top and bottom surfaces 20 and 21, opposite longitudinally extending edges 22, and opposite ends 24. The bottom surface 21 of the elongate pad 17 is supported on and can be adhered to the upper pad support surface 15 of the base 14, and the pad 17 has a sufficient thickness between its top and bottom surfaces 20 and 21 and sufficient width between its edges 22 to afford supporting a users wrists along its top surface 20 with a portion of the layer of gel 19 beneath and conforming to the supported wrists and affording significant motion of the top surface 20 of the pad with the supported wrists relative to its bottom surface 21 in a plane generally parallel to the upper surface 15 of the base 14. As an example, when the gel 19 is that gel described in Example No. 3 in British Patent No. GB **1,268,431** except that the ratio of oil to block copolymer is 6 to 1 rather than being 5 to 1 as is described in that Example No. 3; the layer of that gel 19 has a thickness of about 3/8 inch and a width between the edges of the pad 17 of about 2.9 inches; and the covering 18 is of 0.002 inch thick polyurethane; that motion of the top surface 20 of the pad with a supported wrist relative to its bottom surface 21 in a plane generally parallel to the supported surface 16 of the base 14 allows the supported wrist and the users hand to move in any direction in a generally circular area having a diameter of about one inch. The area of such movement could be made larger or smaller by using different gel compositions, but for most embodiments of the wrist rest should be a circular area having a diameter of at least 1/2 inch.

US PAT NO: 5,669,797 [IMAGE AVAILABLE]

L1: 4 of 9

DETDESC:

DETD(7)

The gel can be any stable viscoelastic material such as the elastomeric block copolymer gels described in U.S. Pat. No. 3,676,387, the substance of which is incorporated herein by reference, or U.K. Patent No. **1,268,431**. These gels comprise synthetic block copolymer elastomers tackified by an oil in a ratio of about 4:1 to 15:1 oil to block copolymer. The block copolymers could be Kraton.TM. or like elastomeric materials which are formed by alternating blocks of a polyalkenyl aromatic, such as polystyrene, and a polyalkadiene such as polyisoprene, polybutadiene or hydrogenated versions thereof.

US PAT NO: 5,641,369 [IMAGE AVAILABLE]

L1: 5 of 9

SUMMARY:

BSUM(6)

Preferably the gel is a stable elastomeric block polymer gel similar to the gel described in U.S. Pat. No. 3,676,387, (the content whereof is hereby incorporated herein by reference) and preferably is the gel described in Example No. 3 of British Patent No. GB **1,268,431** (the content whereof is hereby incorporated herein by reference) except that the ratio of oil to block copolymer is in the range of 4 to 1 to 10 to 1 rather than being 5 to 1 as is described in that Example No.3. That gel is quite similar to the gel in the pad commercially available from Minnesota Mining and Manufacturing Company, St. Paul, Minn., under the trade designation "Reston (T. M.) Flotation Pad", which pad for many years has been used in beds, wheel chairs and the like to prevent pressure points. The base assembly described in that application included a top portion having the upper pad support surface supporting the bottom surface of the elongate pad; a bottom portion having the bottom supported surface adapted to be supported on a horizontal surface; and means for supporting the top portion on the bottom portion with the elongate pad at

a predetermined one of several different distances above the supported surface; that means being provided by the top portion of the base assembly comprising longitudinally extending rails projecting outwardly in opposite directions generally parallel to its upper pad support surface, and the bottom portion including generally parallel spaced vertically upwardly projecting support portions having opposed surfaces defining sets of grooves parallel to the supported surface and vertically spaced along the support portions, each of which sets of grooves is adapted to receive the rails to support the top portion with the top surface of the elongate pad at a different distance above the supported surface depending on which set of grooves the rails are engaged in.

DETDESC:

DETD(3)

Generally, the wrist rest assembly 10 comprises (1) a base assembly 14 having an elongate upper pad support surface 15 (see FIGS. 5 and 6), which base assembly 14 has a bottom supported surface 16 generally parallel to its upper pad support surface 15 adapted to be supported on a horizontal surface along the front edge of the keyboard 11; and (2) an elongate pad 17 comprising a flexible liquid impervious covering layer 18 and a layer of gel 19 under the covering layer 18. The pad 17 has a sufficient thickness between its top and bottom surfaces and sufficient width between its edges to afford supporting a users wrists along its top surface 20 with a portion of the layer of gel 19 beneath and conforming to the supported wrists and affording significant motion of the top surface 20 of the pad with the supported wrists relative to its bottom surface in a plane generally parallel to the upper pad support surface 15 of the base assembly 14. As an example, when the gel 19 is that gel described in Example No. 3 in British Patent No. GB 1,268,431 except that the ratio of oil to block copolymer is 6 to 1 rather than being 5 to 1 as is described in that Example No. 3; the layer of that gel 19 has a thickness of about 3/8 inch and a width between the edges of the pad 17 of about 2.9 inches; and the covering layer 18 comprises a layer of 0.002 inch thick polyurethane; that motion of the top surface 20 of the pad with a supported wrist relative to its bottom surface in a plane generally parallel to the pad support surface 15 of the base assembly 14 allows the supported wrist and the users hand to move in any direction in a generally circular area having a diameter of about one inch. The area of such movement could be made larger or smaller by using different gel compositions, but for most embodiments of the wrist rest should be a circular area having a diameter of at least 1/2 inch.

US PAT NO: 5,633,286 [IMAGE AVAILABLE]

L1: 6 of 9

SUMMARY:

BSUM(4)

UK Patent No. 1,268,431 as well as U.S. Pat. No. 3,676,387 teach forming gel articles having odd or intricate shapes, insoles for boots, ski boot liners, helmet liners, and very flexible exceptionally low modulus material. The gels can be covered with protective skins of elastomeric film or fabric if desired in special applications. Examples given in the patents include coating polyester film with a styrene-isoprene-styrene block copolymer gel and laminating fabric with a styrene-butadiene-styrene block copolymer gel.

US PAT NO: 5,593,769 [IMAGE AVAILABLE]

L1: 7 of 9

DETDESC:

DETD(7)

The gel can be any stable viscoelastic material such as the elastomeric

block copolymer gels described in U.S. Pat. No. 3,676,387, the substance of which is incorporated herein by reference, or U.K. Patent No. **1,268,431**. These gels comprise synthetic block copolymer elastomers tackified by an oil in a ratio of about 4:1 to 15:1 oil to block copolymer. The block copolymers could be Kraton.TM. or like elastomeric materials which are formed by alternating blocks of a polyalkenyl aromatic, such as polystyrene, and a polyalkadiene such as polyisoprene, polybutadiene or hydrogenated versions thereof.

US PAT NO: 5,547,154 [IMAGE AVAILABLE]

L1: 8 of 9

SUMMARY:

BSUM(6)

Preferably the gel is a stable elastomeric block polymer gel similar to the gel described in U.S. Pat. No. 3,676,387, (the content whereof is hereby incorporated herein by reference) and preferably is the gel described in Example No. 3 of British Patent No. GB **1,268,431** (the content whereof is hereby incorporated herein by reference) except that the ratio of oil to block copolymer is in the range of 4 to 1 to 10 to 1 rather than being 5 to 1 as is described in that Example No. 3. That gel is quite similar to the gel in the pad commercially available from Minnesota Mining and Manufacturing Company, St. Paul, Minn., under the trade designation "Reston (T.M.) Flotation Pad", which pad for many years has been used in beds, wheel chairs and the like to prevent pressure points. The base assembly described in that application included a top portion having the upper pad support surface supporting the bottom surface of the elongate pad; a bottom portion having the bottom supported surface adapted to be supported on a horizontal surface; and means for supporting the top portion on the bottom portion with the elongate pad at a predetermined one of several different distances above the supported surface; that means being provided by the top portion of the base assembly comprising longitudinally extending rails projecting outwardly in opposite directions generally parallel to its upper pad support surface, and the bottom portion including generally parallel spaced vertically upwardly projecting support portions having opposed surfaces defining sets of grooves parallel to the supported surface and vertically spaced along the support portions, each of which sets of grooves is adapted to receive the rails to support the top portion with the top surface of the elongate pad at a different distance above the supported surface depending on which set of grooves the rails are engaged in.

DETDESC:

DETD(3)

Generally, the wrist rest assembly 10 comprises (1) a base assembly 14 having an elongate upper pad support surface 15 (see FIGS. 5 and 6), which base assembly 14 has a bottom supported surface 16 generally parallel to its upper pad support surface 15 adapted to be supported on a horizontal surface along the front edge of the keyboard 11; and (2) an elongate pad 17 comprising a flexible liquid impervious covering layer 18 and a layer of gel 19 under the covering layer 18. The pad 17 has a sufficient thickness between its top and bottom surfaces and sufficient width between its edges to afford supporting a users wrists along its top surface 20 with a portion of the layer of gel 19 beneath and conforming to the supported wrists and affording significant motion of the top surface 20 of the pad with the supported wrists relative to its bottom surface in a plane generally parallel to the upper pad support surface 15 of the base assembly 14. As an example, when the gel 19 is that gel described in Example No. 3 in British Patent No. GB **1,268,431** except that the ratio of oil to block copolymer is 6 to 1 rather than being 5 to 1 as is described in that Example No. 3; the layer of that gel 19 has a thickness of about 3/8 inch and a width between the edges of the pad 17 of about 2.9 inches; and the covering layer 18 comprises a layer of 0.002

1. **5,655,947**, Aug. 12, 1997, Ultra-soft, ultra-elastic gel airfoils;
John Youngfu Chen, 446/46, 34, 491 [IMAGE AVAILABLE]
2. **5,324,222**, Jun. 28, 1994, Ultra-soft, ultra-elastic airfoils;
John Y. Chen, 446/34, 46, 48, 61, 62, 66 [IMAGE AVAILABLE]
3. **5,026,054**, Jun. 25, 1991, Toy; John D. Osher, et al., 473/594;
273/DIG.5, DIG.20; 446/46, 267, 369, 385, 491 [IMAGE AVAILABLE]
4. **4,737,128**, Apr. 12, 1988, Flexible unitary circular air foil;
Randall H. Moormann, et al., 446/46; 473/588 [IMAGE AVAILABLE]

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L1 1 S 4737128/PN
L2 1 S 5324222/PN
L3 1 S 5655947/PN
L4 1 S 5026054/PN
L5 4 S L1 OR L2 OR L3 OR L4
L6 3 S L5 AND AIRFOIL
L7 3 S L5 AND GEL?
L8 18866 S AERODYN?
L9 2 S L8 AND L5
L10 6247 S AIRFOIL?
L11 3 S L5 AND L10
L12 607 S MIDBLOCK?
L13 321 S MID(W)BLOCK?
L14 840 S L12 OR L13
L15 0 S L14 AND AIRFOIL?
L16 0 S L14 AND POLYETHYLEN
L17 587 S L14 AND POLYETHYLENE?
L18 328554 S CRYSTAL?
L19 297 S L18 AND L14
L20 293 S L19 AND (TOY? OR AIR? OR FOIL? OR AERODYNAM? OR DISC OR
DIS
L21 0 S L20 AND AIRFOIL?
L22 3 S L20 AND FLY?
L23 1 S L20 AND AERODYN?
L24 22 S FRIS? AND L20
L25 22 S GEL AND L24
L26 22 S GEL? AND L24
L27 0 S AIRPLANE? AND L26
L28 0 S AIRFOIL? AND L22
L29 0 S AIRFOIL? AND L26
L30 0 S TOY? AND L26
L31 0 S AERODYN? AND L26
L32 0 S FRIS? AND L22